

we claim:

Claims

1. Promoter-transactivator system for inducible high-level mammalian gene expression with the option of cell growth control comprising

(a) a promoter construct (IRFE promoter) having the general structure:

→ mRNA

[MPSV-E]-[IRF-1-binding sites]-[CMV]-DNA, wherein

MPSV-E means MPSV enhancer repeats of the sequence:
 GCTAGCTTAAGTAACGCCATTTTGCAAGGCATGGGAAAATACATAACTGAGAATAGAGAAG
 TTCAGATCAAGGTCAGGAACAGAGAAACAGGAGAATATGGGCCAAACAGGATATCTGTGGTA
 AGCAGTTCCTGCCCCGCTCAGGGCCAAGAACAGTTGGAACAGGAGAATTGGGCCAAACAGGA
 TATCTGTGGTAAGCAGTTCCTGCCCCGCTCAGGGCCAAGAACAGATGGTCCCCAGATGCGGT
 CCCGCCCTCAGCAGTTTCTAGA,

or isofunctional variants thereof obtained by substitution, insertion or deletion of one or more nucleotides,

IRF-1-binding sites means the sequence:
 GATCCCTTCTCGGGAAATGGAAACTGAAATCAGATCCCTTCTCGGGAAATGGAAACTGAA
 ATCAGATC,

or isofunctional variants thereof obtained by substitution, insertion or deletion of one or more nucleotides, and

CMV means a minimal promoter of the sequence:
 TGGCGTGTACGGTGGGAGGCCTATATAAGCAGAGCTCGTTTAGTGAACCGTCAAACCGTCAA
 ACCGCGGAAGCT,

or isofunctional variants thereof obtained by substitution, insertion or deletion of one or more nucleotides,

Sub
aa2

and

(b) a transactivator construct coding for a fusion protein comprising IRE-1 and the estrogen receptor.

2. Expression vector(s) comprising a promoter construct and/or a transactivator construct according to claim 1.

3. Mammalian cells transfected or transformed with an expression vector(s) according to claim 2.

4. Process for inducible high-level mammalian gene expression with the option of cell growth control comprising the steps of

(a) transfecting or transforming mammalian cells with an expression vector or expression vectors, respectively, according to claim 2,

(b) culturing said mammalian cells, or transfected or transformed mammalian cells according to claim 3, in a suitable medium, and,

(c) optionally, controlling the growth of said mammalian cells by varying the concentration and the duration of exposure to estradiol in the medium.

add (b)